Formerly C&GS 1152, 1st Ed., July 1974, C-1974-142

11520 OMEGA OVERPRINTED

UNITED STATES — EAST COAST

CAPE HATTERAS TO CHARLESTON

Mercator Projection
Scale 1:632,729 at Lat. 34°
North American Datum of 1983
(World Geodetic System 1984)

SOUNDINGS IN FATHOMS
AT MEAN LOWER LOW WATER

(For offshore navigation only)

ABBREVIATIONS (For complete list of Symbols and Abbreviations, see Chart No. 1.)

Aids to Navigation (lights are white unless otherwise indicated):

AERO aeronautical	G green	Mo morse code	R TR radio tower
Al alternating	Gp group	N nun	Rot rotating
B black	IQ interrupted quick	OBSC obscured	s seconds
Bn beacon	Iso isophase (E Iso)	Oc occulting	SEC sector
C can	LT HO lighthouse	Or orange	St M statute miles
DIA diaphone	M nautical mile	Q quick	VQ very quick
F fixed	m minutes	R red	W white
Fl flashing	MICRO TR microwave tower	Ro Ref radar reflector	WHIS whistle
	Mtr marker	R Bn radiobeacon	Y yellow

Bottom characteristics:

Bldrs boulders	Co coral	gy gray	Oys oysters	so soft	
bk broken	G gravel	h hard	Rk rock	Sh shells	
Cy clay	Grs grass	M mud	S sand	sy sticky	

Miscellaneous:

AUTH authorized	Obstn obstruction	PD position doubtful	Subm submerged
ED existence doubtful	PA position approximate	Rep reported	

Wreck, rock, obstruction, or shoal swept clear to the depth indicated.
Rocks that cover and uncover, with heights in feet above datum of soundings.
COLREGS International Regulations for Preventing Collisions at Sea, 1972.
Demarcation lines are shown thus:

HEIGHTS
Heights in feet above Mean High Water.

AUTHORITIES
Hydrography and topography by the National Ocean Service, Charting and Geodetic Services with additional data from the U.S. Coast Guard and Defense Mapping Agency.

HORIZONTAL DATUM
The horizontal reference datum of this chart is North American Datum of 1983 (NAD 83) which for charting purposes is considered equivalent to the World Geodetic System 1984 (WGS 84). Geographic positions referred to the North American Datum of 1927 do not require conversion to NAD 83 for plotting on this chart.

NOTE A
Navigation regulations are published in Chapter 2, U.S. Coast Pilot 4. Additions or revisions to Chapter 2 are published in the Notices to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 5th Coast Guard District in Portsmouth, VA and the 7th Coast Guard District in Miami, FL or at the Office of the District Engineer, Corps of Engineers in Wilmington, NC.
Refer to charted regulation section numbers.

CAUTION
Temporary changes or defects in aids to navigation are not indicated on this chart. See Notice to Mariners.

POLLUTION REPORTS
Report all spills of oil and hazardous substances to the National Response Center via 800-424-8802 (toll free), or to the nearest U.S. Coast Guard facility if telephone communication is impossible (33 CFR 153).

RADAR REFLECTORS
Radar reflectors have been placed on many floating aids to navigation. Individual radar reflector identification on these aids has been omitted from this chart.

WARNING
The prudent mariner will not rely solely on any single aid to navigation, particularly on floating aids. See U.S. Coast Guard Light List and U.S. Coast Pilot for details.

AIDS TO NAVIGATION
Consult U.S. Coast Guard Light List for supplemental information concerning aids to navigation.

NOTE B
DANGER AREA
Area is open to unrestricted surface navigation but all vessels are cautioned neither to anchor (except as shown) dredge, trawl, dig cables, bottom, nor conduct any other similar type of operation because of residual danger from mines on the bottom.

DANGER
Unexploded projectiles exist within the area of Browns Inlet.

NOTE S
Regulations for Ocean Dumping Sites are contained in 40 CFR, Parts 220-229. Additional information concerning the regulations and requirements for use of the sites may be obtained from Environmental Protection Agency (EPA). See U.S. Coast Pilots appendix for addresses of EPA offices.

CAUTION
Only marine radiobeacons have been calibrated for surface use. Limitations on the use of person other radio signals as aids to marine navigation can be found in the U.S. Coast Guard Light Lists and Defense Mapping Agency Publication 117.

Radio direction-finder bearings to commercial broadcasting stations are subject to error and should be used with caution.
Station positions are shown thus:
(A)Accurate location (a)Approximate location)

OMEGA
GENERAL EXPLANATION

Basic Frequency ..... 10.2 kHz

PAIRS ON THIS CHART
AC AG DG AD CH

OMEGA STATIONS: (A – Aldra, Norway) (B – Monrovia, Liberia) (C – Haiku, Hawaii) (D – La Moure, North Dakota) (E – La Reunion Island, France) (F – Golfo Nuevo, Argentina) (G – Woodside, Australia) (H – Tsushima, Japan)

Propagation corrections must be used for plotting and reading OMEGA positions on this chart. OMEGA Propagation Correction publications are indexed and listed with price in Defense Mapping Agency Pub. 1-N-A. Pub. 1-N-A is available at Defense Mapping Agency sales agents and many National Ocean Service sales agents, or it may be obtained directly from:

Defense Mapping Agency
Office of Distribution Services
Attention: DDCP
Washington, D.C. 20315

OMEGA LINEAR INTERPOLATOR

OMEGA LINEAR INTERPOLATOR

NORTH CAROLINA — SOUTH CAROLINA

ATLANTIC OCEAN

LONG BAY

ONSLOW BAY

PAMLICO RIVER (see chart 11554)

NEUSE RIVER (see chart 11550)

CAPE FEAR

CAPE LOOKOUT

CAPE HATTERAS

CAPE ROMAIN

OAK ISLAND TOWER (Aband. As Ho)

Myrtle Beach AERO Rot W & G

Buoy 13 Mo (A) WHIS

Buoy 15 Mo (A) WHIS

Buoy 17 Mo (A) WHIS

Buoy 19 Mo (A) WHIS

Buoy 21 Mo (A) WHIS

Buoy 23 Mo (A) WHIS

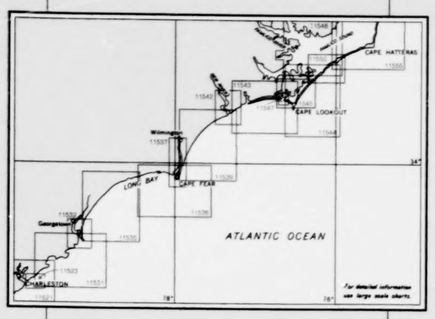
Buoy 25 Mo (A) WHIS

Buoy 27 Mo (A) WHIS

Buoy

Formerly C&GS 1110, 1st Ed. July 1914. C-1914-142

Nautical Chart Catalog No. 1, Panel C



OMEGA LINEAR INTERPOLATOR

LOCAL MAGNETIC DISTURBANCE
Differences of as much as 3° from the normal variation have been observed, 6 to 12 nautical miles offshore from Wimble Shoals to Cape Hatteras.

NOTE C
CAUTION
Hydrography is not charted on Diamond Shoals due to the changeable nature of the area. Navigation in the area is extremely hazardous to all types of craft

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Station positions are shown thus:
○(Accurate location) ○(Approximate location)

NOTE B
DANGER AREA
Area is open to unrestricted surface navigation but all vessels are cautioned neither to anchor (except as shown) dredge, trawl, dig cables, bottom, nor conduct any other similar type of operation because of residual danger from mines on the bottom.

DANGER
Unexploded projectiles exist within the area of Browns Inlet.

NOTE S
Regulations for Ocean Dumping Sites are contained in 40 CFR, Parts 220-229. Additional information concerning the regulations and requirements for use of the sites may be obtained from Environmental Protection Agency (EPA). See U.S. Coast Pilots appendix for addresses of EPA offices.

PAMLICO RIVER (see chart 11554)
NEUSE RIVER (see chart 11552)
PAMLICO SOUND
(see chart 11555)
(see chart 11548)
(see chart 11550)
CORE SOUND
(see chart 11542)
RALEIGH BAY
ONSLOW BAY
BEAUFORT INLET
CAPE LOOKOUT SHOALS
CAPE FEAR
OAK ISLAND
FRYING PAN SHOALS
DANGER AREA 334.440
Unexploded ordnance (see NOTE B)
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SOUNDINGS IN FATHOMS

11520 LORAN-C OVERPRINTED

Formerly C&GS 1110, 1st Ed., July 1974. C-1974-142

NOAA

NATIONAL OCEAN SERVICE

UNITED STATES — EAST COAST

CAPE HATTERAS TO CHARLESTON

Mercator Projection
Scale 1:432,720 at Lat. 34°
North American Datum of 1983
(World Geodetic System 1984)

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AT MEAN LOWER LOW WATER

(For offshore navigation only)

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Bl. black	IQ interrupted quick	OBSC obscured	s seconds
Bn. beacon	Iso isophase (E int)	Oc. occulting	SEC sector
C. can	LT HO lighthouse	Or orange	St M statute miles
DIA. diaphone	M nautical mile	Q quick	VQ very quick
F. Int. equal interval (Iso)	m minutes	R red	W white
F. fixed	MICRO TR microwave tower	Ro Ref. radar reflector	WHIS whistle
Fl. flashing	Mkr. marker	R Bn. radiobeacon	Y. yellow

Bottom characteristics:

Bldrs. boulders	Co. coral	gy. gray	Oys. oysters	so. soft
br. broken	G. gravel	h. hard	Rk. rock	Sh. shells
Cy. clay	Grs. grass	M. mud	S. sand	sy. sticky

Miscellaneous:

AUTH. authorized	Obstn. obstruction	PD. position doubtful	Subm. submerged
ED. existence doubtful	PA. position approximate	Rep. reported	

(2) Wreck, rock, obstruction, or shoal swept clear to the depth indicated.
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(Station positions are shown thus.
⊙(Accurate location) ⊙(Approximate location)

NOTE B
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Area is open to unrestricted surface navigation, but all vessels are cautioned neither to anchor (except as shown), dredge, trawl, lay cables, bottom, nor conduct any other similar type of operation because of residual danger from mines on the bottom.

DANGER
Unexploded projectiles exist within the area of Browns Inlet.

LORAN-C
GENERAL EXPLANATION

LORAN-C FREQUENCY 100kHz
PULSE REPETITION INTERVAL:
9960 ..... 99,300 Microseconds
7980 ..... 79,800 Microseconds
STATION TYPE DESIGNATORS: (Not individual station letter designators)
M ..... Master
W ..... Secondary
X ..... Secondary
Y ..... Secondary
Z ..... Secondary
EXAMPLE 9960-X

RATES ON THIS CHART
9960-X 9960-Y 9960-Z
7980-Y 7980-Z

The Loran-C correction tables published by the Defense Mapping Agency or others should not be used with this chart. The lines of position shown have been adjusted based on survey data. Every effort has been made to meet the ¼ nautical mile accuracy criteria established by U.S. Coast Guard. Mariners, however, are cautioned not to rely solely on the lattices in inshore waters.

LORAN LINEAR INTERPOLATOR

MICROSECONDS

LORAN LINEAR INTERPOLATOR

NORTH CAROLINA — SOUTH CAROLINA

ATLANTIC OCEAN

PAMLICO RIVER

NEUSE RIVER

ONSLOW BAY

LONG BAY

A T L A

(JOINS CHART 11480)

CONTINUED ON 40° CHART 11009

31st Ed., Sept. 15/90 ■

11520
LORAN-C OVERPRINTED

CAUTION
This chart has been corrected from the Notice to Mariners published weekly by the Defense Mapping Agency Hydrographic/Topographic Center and the Local Notice to Mariners issued periodically by each U.S. Coast Guard district to the date shown in the lower left hand corner.

This nautical chart has been designed to promote safe navigation. The National Ocean Service encourages users to submit corrections, additions, or comments for improving this chart to the Director, Charting and Geodetic Services (N/CG22), National Ocean Service, NOAA, Rockville, Maryland 20852.

For OMEGA coverage see reverse side

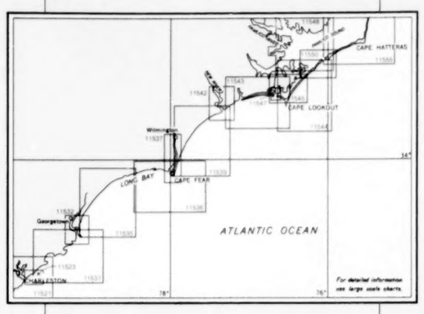
20th Anniversary 1970–1990
National Oceanic and Atmospheric Administration
Serving The Nation

Published at Washington, D.C.
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE

SOUNDINGS IN FATH

Formerly C&GS 1110, 1st Ed., July 1974; D-1974-142

Nautical Chart Catalog No. 1 (Panel)



LORAN LINEAR INTERPOLATOR

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RALEIGH BAY

ONSLOW BAY

CAPE FEAR

CAPE HATTERAS

CAPE LOOKOUT

OAK ISLAND

WILMINGTON

ATLANTIC OCEAN

(see chart 11548)

(see chart 11550)

(see chart 11545)

(see chart 11543)

(see chart 11540)

(see chart 11537)

(see chart 11535)

(see chart 11532)

(see chart 11529)

(see chart 11526)

(see chart 11523)

(see chart 11521)

(see chart 11519)

(see chart 11516)

(see chart 11513)

(see chart 11509)

(see chart 11507)

(see chart 11504)

(see chart 11502)

(see chart 11498)

(see chart 11495)

(see chart 11493)

(see chart 11491)

(see chart 11489)

(see chart 11487)

(see chart 11485)

(see chart 11483)

(see chart 11481)

(see chart 11479)

(see chart 11477)

(see chart 11475)

(see chart 11473)

(see chart 11471)

(see chart